

Claims

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1. Nutritional and pharmaceutical formulations comprising in combination a source of vitamin K and a source of at least one essential fatty acid (EFA), in which the concentration of vitamin K is not less than 1000  $\mu$ g/100g.
  2. Nutritional and pharmaceutical formulations according to claim 1 in which the concentration of vitamin K is not less than 1000  $\mu$ g/10g.
  - 10 3. Nutritional and pharmaceutical formulations according to claim 1 which provide a daily dose between 50  $\mu$ g and 100 mg vitamin K and between 50 mg and 100 g of the EFA.
  - 15 4. Nutritional and pharmaceutical formulations according to claim 1 in which the form of vitamin K used is phylloquinone (vitamin K1).
  - 20 5. Nutritional and pharmaceutical formulations according to claim 1 in which the EFA is selected from gamma-linolenic acid, dihomogammalinolenic acid, arachidonic acid and adrenic acid, and combinations of these EFAs.
  - 25 6. Nutritional and pharmaceutical formulations according to claim 1 in which the EFA is selected from stearidonic acid, eicosapentaenoic acid, docosapentaenoic acid and docosahexenoic acid, and combinations of these EFAs.

7. Nutritional and pharmaceutical formulations according to claim 1 in which there is at least one n-6 EFA and at least one n-3 EFA present, the n-6 EFA(s) selected from gamma-linolenic acid, dihomogammalinolenic acid, arachidonic acid and adrenic acid, and combinations of these acids, and the n-3 EFA(s) selected from stearidonic acid, eicosapentaenoic acid, docosapentaenoic acid and docosahexaenoic acid, and combinations of these acids.
8. Nutritional and pharmaceutical formulations according to claim 1 in which the active ingredient consists essentially wholly of EFA and vitamin K.
9. Nutritional and pharmaceutical formulations according to claim 1 further comprising one or more essential vitamins and/or minerals or one or more pharmaceutical drugs.
10. Nutritional and pharmaceutical formulations comprising in combination a source of vitamin K and a source of at least one essential fatty acid (EFA), in which proteins and amino acids are absent from the active ingredients of the formulation.
11. Nutritional and pharmaceutical formulations according to claim 10 which provide a daily dose between 50  $\mu$ g and 100 mg vitamin K and between 50 mg and 100 g of the EFA.

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12. Nutritional and pharmaceutical formulations according to claim 10 in which the form of vitamin K used is phylloquinone (vitamin K1).
13. Nutritional and pharmaceutical formulations according to claim 10 in which the EFA is selected from gamma-linolenic acid, dihomogammalinolenic acid, arachidonic acid and adrenic acid, and combinations of these EFAs.
14. Nutritional and pharmaceutical formulations according to claim 10 in which the EFA is selected from stearidonic acid, eicosapentaenoic acid, docosapentaenoic acid and docosahexenoic acid, and combinations of these EFAs.
15. Nutritional and pharmaceutical formulations according to claim 10 in which there is at least one n-6 EFA and at least one n-3 EFA present, the n-6 EFA(s) selected from gamma-linolenic acid, dihomogammalinolenic acid, arachidonic acid and adrenic acid, and combinations of these acids, and the n-3 EFA(s) selected from stearidonic acid, eicosapentaenoic acid, docosapentaenoic acid and docosahexaenoic acid, and combinations of these acids.
16. Nutritional and pharmaceutical formulations according to claim 10 in which the active ingredient consists essentially wholly of EFA and vitamin K.
17. Nutritional and pharmaceutical formulations according to claim 10 further comprising one or

more essential vitamins and/or minerals or one or more pharmaceutical drugs.

18. Foodstuff which already contain EFAs to which have been added vitamin K in an amount to raise the vitamin K content of the food to 1000  $\mu$ g / 100 g food, or more.

19. Foodstuff which already contain EFAs to which have been added vitamin K in an amount to raise the vitamin K content of the food to 1000  $\mu$ g / 10 g food, or more.

20. Foodstuff according to claim 18 in which the specific EFA(s) content has been raised by the addition of one of more EFAs.

21. Foodstuff which naturally contains clinically or nutritionally small amounts of vitamin K and / or EFA(s) to which has been added vitamin K and EFAs.

22. A method of treating or preventing a variety of diseases or conditions including:

premenstrual or menstrual disorders of any kind;

bone or calcium disorders of any kind, including osteoporosis;

metabolic or cardiovascular disorders including diabetes, obesity, elevated blood cholesterol or triglyceride levels or cardiovascular disorders;

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stress, mental, psychological, psychiatric  
or neurological disorders;

skin disorders;

asthma or other respiratory disorder;

5 arthritis or any form of inflammatory,  
gastrointestinal, kidney or reproductive system  
disorder;

10 using nutritional and pharmaceutical  
formulations comprising in combination a source  
of vitamin K and a source of at least one  
essential fatty acid (EFA), in which the  
concentration of vitamin K is not less than 1000  
 $\mu\text{g}/100\text{g}$ .

15 23. The method according to claim 22 in which the  
concentration of vitamin K is not less than 1000  
 $\mu\text{g}/10\text{g}$ .

24. The method according to claim 22 which provides a  
daily dose between 50  $\mu\text{g}$  and 100 mg vitamin K and  
between 50 mg and 100 g of the EFA.

20 25. The method according to claim 22 in which the  
form of vitamin K used is phylloquinone (vitamin  
K1).

25 26. The method according to claim 22 in which the EFA  
is selected from gamma-linolenic acid,  
dihomogammalinolenic acid, arachidonic acid and  
adrenic acid, and combinations of these EFAs.

27. The method according to claim 22 in which the EFA  
is selected from stearidonic acid,

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eicosapentaenoic acid, docosapentaenoic acid and docosahexenoic acid, and combinations of these EFAs.

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28. The method according to claim 22 in which there is at least one n-6 EFA and at least one n-3 EFA present, the n-6 EFA(s) selected from gamma-linolenic acid, dihomogammalinolenic acid, arachidonic acid and adrenic acid, and combinations of these acids, and the n-3 EFA(s) selected from stearidonic acid, eicosapentaenoic acid, docosapentaenoic acid and docosahexaenoic acid, and combinations of these acids.

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29. The method according to claim 22 in which the active ingredient consists essentially wholly of EFA and vitamin K.

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30. The method according to claim 22 further comprising one or more essential vitamins and/or minerals or one or more pharmaceutical drugs.

20  
31. A method of treating or preventing a variety of diseases or conditions including:

premenstrual or menstrual disorders of any kind;

25 bone or calcium disorders of any kind, including osteoporosis;

metabolic or cardiovascular disorders including diabetes, obesity, elevated blood cholesterol or triglyceride levels or cardiovascular disorders;

stress, mental, psychological, psychiatric  
or neurological disorders;

skin disorders;

asthma or other respiratory disorder;

5 arthritis or any form of inflammatory,  
gastrointestinal, kidney or reproductive system  
disorder;

10 using nutritional and pharmaceutical formulations  
comprising in combination a source of vitamin K  
and a source of at least one essential fatty acid  
(EFA), in which proteins and amino acids are  
absent from the active ingredients of the  
formulation.

15 32. The method according to claim 31 which provides a  
daily dose between 50  $\mu$ g and 100 mg vitamin K and  
between 50 mg and 100 g of the EFA.

33. The method according to claim 31 in which the  
form of vitamin K used is phylloquinone (vitamin  
K1).

20 34. The method according to claim 31 in which the EFA  
is selected from gamma-linolenic acid,  
dihomogammalinolenic acid, arachidonic acid and  
adrenic acid, and combinations of these EFAs.

25 35. The method according to claim 31 in which the EFA  
is selected from stearidonic acid,  
eicosapentaenoic acid, docosapentaenoic acid and  
docosahexenoic acid, and combinations of these  
EFAs.

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36. The method according to claim 31 in which there is at least one n-6 EFA and at least one n-3 EFA present, the n-6 EFA(s) selected from gamma-linolenic acid, dihomogammalinolenic acid, arachidonic acid and adrenic acid, and combinations of these acids, and the n-3 EFA(s) selected from stearidonic acid, eicosapentaenoic acid, docosapentaenoic acid and docosaheptaenoic acid, and combinations of these acids.

10 37. The method according to claim 31 in which the active ingredient consists essentially wholly of EFA and vitamin K.

15 38. The method according to claim 31 further comprising one or more essential vitamins and/or minerals or one or more pharmaceutical drugs.

39. A method of treating or preventing a variety of diseases or conditions including:

premenstrual or menstrual disorders of any kind;

20 bone or calcium disorders of any kind, including osteoporosis;

metabolic or cardiovascular disorders including diabetes, obesity, elevated blood cholesterol or triglyceride levels or cardiovascular disorders;

25 stress, mental, psychological, psychiatric or neurological disorders;

skin disorders;

asthma or other respiratory disorder;

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using foodstuff which already contain EFAs to which have been added vitamin K in an amount to raise the vitamin K content of the food to 1000  $\mu\text{g}$  / 100 g food, or more.

40. The method according to claim 39 using foodstuff which already contain EFAs to which have been added vitamin K in an amount to raise the vitamin K content of the food to 1000  $\mu\text{g}$  / 10 g food, or more.
41. The method according to claim 39 in which the specific EFA(s) content has been raised by the addition of one of more EFAs.
42. The method according to claim 39 using foodstuff which naturally contains clinically or nutritionally small amounts of vitamin K and / or EFA(s) to which has been added vitamin K and EFAs.